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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

44

Office Action Summary	Application No.	Applicant(s)
	10/675,197	ARMITANO, ROBERT
	Examiner	Art Unit
	Kimberly Lovel	2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30,33-44 and 46-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-30,33-44 and 46-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30, 33-44 and 46-48 are rejected. Claims 31, 32 and 45 have been canceled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 August 2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 36-43 and 44-48** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps in claims 36 and 44 are: transmission of the content. In order to terminate transmission of the content or to continue transmission of the content, there must first be a step consisting of transmitting the content.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No 5,870,754 to Dimtrova et al (hereafter Dimtrova).

Referring to claim 24, Dimitrova et al disclose a method for identifying content using a protocol associated with the content as a signature, the method comprising the steps of:

determining the protocol associated with the content [video clips] (see column 5, lines 38-41 – "Then, in step 102, whether the video clip is at least partially encoded using the MPEG or the Motion JPEG encoding standard, is not encoded at all, or is encoded using different encoding standard, is determined;" MPEG and JPEG are types of protocols);

identifying a set of markers associated with the protocol (see column 5, lines 18-27);

obtaining a set of markers [DC coefficients and motion vectors] from the content using the set of marker associated with the protocol (see column 5, lines 50-53); and

generating a signature of the content using the identified markers [DC coefficients] (see column 11, line 60 – column 12, line 30).

Referring to claim 25, Dimitrova et al disclose the method of claim 24 wherein the identified markers [DC coefficients and motion vectors] are within a subset [frames] of the entire content [video clip] (see column 5, lines 46-53).

Referring to claim 26, Dimitrova et al disclose the method of claim 24 wherein a size associated with the content is utilized to uniquely identify the content [video clips] (see column 9, lines 44-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 10-13, 19, 20, 30, 34-38, 44 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2002/0126872 to Brunk et al (hereafter Brunk) in view of US PGPub 2002/0141365 to Leung (hereafter Leung).

Referring to claim 1, Brunk discloses a method for comparing a first content with a second content to determine whether the contents are identical, comprising:

computing [calculated] a first signature of the first content and a second signature of the second content, wherein the first signature has one or more unique protocol markers that are generated from transformation during encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]); and

comparing [a database query is executed to match signatures] the one or more unique protocol markers of the first computed signature with the one or more unique protocol markers the second signature to determine whether the

first content is identical to the second content [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing the first content in a cache; identifying the protocol encoding the first content and the second content; storing in the cache the second content, in response to determining the first content is not identical to the second content. Leung discloses storing the first content in a cache [cache memory] (see [0119]); identifying the protocol encoding the first content and the second content (see [0103] and [0107]); storing in the cache the second content, in response to determining the first content is not identical to the second content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 2, the combination of Brunk and Leung (hereafter Brunk/Leung) discloses the method of claim 1 further comprising the steps of:

selecting a first set of data segments from the first content and a second set of data segments from the second content (Brunk: see [0022] and [0023]); and

using the selected first set of data segments and the second set of data segments to compute the first signature and the second signature (Brunk: see [0026], lines 1-6).

Referring to claim 3, Brunk/Leung discloses the method of claim 2 wherein the selected first set of data segments and second set of data segments comprise locations associated with one or more protocol markers (Brunk: see [0022]-[0024]).

Referring to claim 4, Brunk/Leung discloses the method of claim 1 wherein the step of computing the signature of the first content and the signature of the second content further comprises the steps of:

identifying one or more protocol markers associated with the first content (Brunk: see [0026]); and

identifying one or more protocol markers associated with the second content (Brunk: see [0026]).

Referring to claim 10, Brunk discloses a method for comparing a first content with a second content to determine whether the contents are identical, comprising:

a plurality of data segmentation modules configured to select a set of data segments from each of the first content and the second content (Brunk: see [0022]-[0023]);

a plurality of signature computation modules configured to generate [calculated] a first signature of the first content and a second signature of the second content, wherein the first signature has one or more unique protocol

markers that are generated from transformation during encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]);

a signature comparison module configured to compare [a database query is executed to match signatures] the first signature with the second signature [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of a protocol identification module to identify a first protocol associated with the first content and a second protocol associated with the second content and a cache configured to store the first content and to store the second content if the signature comparison module determines the first signature of the first content and the second signature of the second content do not match. Leung discloses a protocol identification module configured to identify a first protocol associated with the first content and a second protocol associated with the second content (see [0103] and [0107]); and a cache [cache memory] configured to store in the cache the second content, in response to determining the first content is not identical to the second content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than

accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 11, Brunk discloses an apparatus for comparing a first content with a second content, the apparatus comprising:

means for selecting a set of data segments from the first content and the second content (see [0022] and [0023]);

means for computing [calculated] a signature of the first content and a signature of the second content, wherein the first signature has one or more unique protocol markers that are generated from transformation during encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]); and

means for comparing [a database query is executed to match signatures] the computed signature of the first content with the computed signature of the second content [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of means for storing the first content in a cache; means for identifying the protocol encoding the first content and the second content; means for storing in the cache the second content, in response to determining the first content is not identical to the second content. Leung discloses means for storing the first content in a cache [cache memory] (see [0119]); means for identifying the protocol encoding the first content and the second content (see [0103] and [0107]); means for storing in the cache the second content, in response to determining the first

content is not identical to the second content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 12, Brunk/Leung discloses the apparatus of claim 11 wherein the selected data segments comprises locations associated with one or more protocol markers (Brunk: see [0022]-[0024]).

Referring to claim 13, Brunk/Leung discloses the apparatus of claim 11 wherein the means for computing the signature of the first content and the signature of the second content further comprises the steps of:

means for identifying one or more protocol markers associated with the first content (Brunk: see [0026]); and

means for identifying one or more protocol markers associated with the second content (Brunk: see [0026]).

Referring to claim 19, Brunk discloses a method to compare a first content with a second content in a network storage environment, comprising:

receiving the first content [input signal] (see [0022], lines 2-3);

computing [calculated] a signature of the first content, wherein the signature of the first content has a set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]);

comparing [a database query is executed to match signatures] the computed signature of the first content with a signature of the second content [recalculated signature] (see [0083]) wherein the signature of the second content has a set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]); and

identifying, if the computed signature of the first content matches the signature of the second content, that the first content is identical to the second content [a database query is executed to match signatures] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing in a cache the first content; and terminating transmission of the second content, in response to identifying the first content is identical to the second content. Leung discloses storing in a cache [cache memory] the first content (see [0119]); and terminating transmission of the second content, in response to identifying the first content is identical to the second content (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 20, Brunk/Leung discloses the method of claim 19 wherein the step of computing the signature of the first further comprises the steps of:

identifying a set of protocol markers [DC coefficients] associated with the content (Brunk: see [0031]); and

generating the signature from the identified set of protocol markers (Brunk:see [0031]).

Referring to claim 30, Brunk discloses a protocol marker identifier executing on a computer for generating a signature of a content, comprising:

a data segmentation module configured to select a set of data segments from the content (Brunk: see [0022]-[0023]); and

a signature computation modules configured to generate [calculated] the signature from the set of data segments, wherein the signature is a set of protocol markers that are generated from transformation during encoding [compressed, transformed] and the second signature has one or more unique protocol markers that are generated from transformation during encoding (see [0031]).

However, Brunk fails to explicitly disclose the further limitations of a protocol identification module configured to receive the content and to identify a protocol associated with the content and a cache configured to store the content. Leung discloses a protocol identification module configured to receive the content and to identify a protocol associated with the content (see [0103] and [0107]); and a cache [cache memory] configured to store the content [if the

detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 34, Brunk discloses a method, comprising:

means for computing [calculated] a signature of the new content, wherein the signature of the new content is a set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]); and

means for comparing [a database query is executed to match signatures] the computed signature of the new content with signatures of other contents (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of means for determining a protocol of a new content; and means for storing the new content in the network cache, in response to determining the new content is not identical to any other content within the network cache. Leung discloses means for determining a protocol of a new content (see [0103] and [0107]); and means for storing the new content in the network cache, in response to determining the new content is not identical to any other content within the network cache [if the

detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 35, Brunk/Leung discloses the network caching device of claim 34 wherein the means for computing a signature further comprises:

means for identifying the set of markers associated with the protocol associated with the new content (Brunk: see [0026]); and

means for obtaining appropriate markers associated with the content (Brunk: see [0026]).

Referring to claim 36, Brunk discloses a method, comprising:

Identifying a first signature of the first content and second signature of the second content, wherein each signature contains one or more protocol markers identifying the content, where the one or more protocol markers are generated from one or more transformations of each content during encoding [compressed, transformed] (see [0031]);

comparing [a database query is executed to match signatures] one or more protocol markers within the first signature and the second signature to

determine whether the first content is identical to the second content [a database query is executed to match signatures] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing in a cache the first content; identifying the protocol encoding the first content and the second content; and terminating transmission of the second content, in response to identifying the first content is identical to the second content. Leung discloses storing in a cache [cache memory] the first content (see [0119]); identifying the protocol encoding the first content and the second content; and terminating transmission of the second content, in response to identifying the first content is identical to the second content (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 37, Brunk/Leung discloses the method of claim 36, further comprising:

computing the first signature of the first content as the first content is converted from raw data to the protocol (Brunk: see [0031]); and

computing the second signature of the second content as the second content is converted from raw data to the protocol (Brunk: see [0031]).

Referring to claim 38, Brunk/Leung discloses the method of claim 36, further comprising: continuing transmission of the second content, if the first content and the second content are not identical (Leung: see [0119]).

Referring to claim 44, Brunk discloses a method, comprising:

computing [calculated] a signature of the new content, wherein the signature of the new content is a set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]); and

comparing [a database query is executed to match signatures] the computed signature of the new content with other content stored in a network cache to determine if the new content is identical to any other content on the network cache [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of determining a protocol of a new content; terminating transmission of the new content, in response to determining the new content is identical any other content on the network cache; and storing the new content in the network cache, in response to determining the new content is not identical to any other content within the network cache. Leung discloses determining a protocol of a new content (see [0103] and [0107]); terminating transmission of the new content, in response to determining the new content is identical any other content on the network cache [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]); and storing the new content in the network cache, in response to determining the new content is not identical to any other content within the

network cache [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 46, Brunk/Leung discloses the network caching device of claim 44 wherein the step of computing a signature further comprises:

identifying the set of markers associated with the protocol associated with the new content (Brunk: see [0026]); and

obtaining appropriate markers associated with the content (Brunk: see [0026]).

Referring to claim 47, Brunk discloses a method, comprising:

wherein the first content has a first signature with a first set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]);

computing a signature of the second content, wherein the second signature has a second set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]);

comparing [a database query is executed to match signatures] the first set of protocol markers to the second set of protocol markers (see [0083]); and

determining the first set of protocol markers match the second set of protocol markers [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing the first content in a cache; identifying the protocol encoding the second content; in response to determining the first set of protocol markers match the second set of protocol markers, terminating transmission of the new content; and in response to determining the first set of protocol markers do not match the second set of protocol markers, storing in the cache the second content. Leung discloses storing the first content in a cache [cache memory] (see [0119]); identifying the protocol encoding the first content and the second content (see [0103] and [0107]); in response to determining the first set of protocol markers match the second set of protocol markers, terminating transmission of the new content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]); and in response to determining the first set of protocol markers do not match the second set of protocol markers storing in the cache the second content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost,

since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 48, Brunk/Leung discloses the method of claim 47, further comprising: in response to determining the first set of protocol markers do not match the second set of protocol markers, flushing the first content from the cache (Leung: see [0119]).

6. Claims 4-9, 14-18, 21-23, 33 and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2002/0126872 to Brunk et al in view of US PGPub 2002/0141365 to Leung as applied to claims 1, 11, 19, 20, 30 and 36 respectively above, and further in view of US Patent No 5,870,754 to Dimitrova et al.

Referring to claim 4, Dimitrova et al disclose computing signatures of content, including the further limitation of wherein the step of computing the signature of the first content and the signature of the second content (see column 11, line 60 – column 12, line 30) further comprises the steps of:

identifying one or more protocol markers [DC coefficients] associated with the first content [video clip] (see column 12, line 63 – column 13, line 20); and

identifying one or more protocol markers [DC coefficients] associated with the second content [query video clip] (see column 12, line 63 – column 13, line 20).

It would have been obvious to one of ordinary skill in the art to utilize the specific types of protocol markers disclosed by Dimitrova with the ones disclosed by Brunk/Leung. One would have been motivated to do so since the protocol markers disclosed by Dimitrova are well known to be associated with the transformation of the content disclosed by Brunk/Leung.

Referring to claim 5, the combination of Brunk/Leung and Dimitrova (hereafter Brunk/Leung/Dimitrova) discloses the method of claim 4 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 6, Brunk/Leung/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the second content [query video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 7, Brunk/Leung/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 8, Brunk/Leung/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the second

content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 9, Brunk/Leung/Dimitrova discloses the method of claim 4 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

Referring to claim 13, Dimitrova et al disclose computing signatures of content, including the further limitation of wherein the step of computing the signature of the first content and the signature of the second content (see column 11, line 60 – column 12, line 30) further comprises the steps of:

identifying one or more protocol markers [DC coefficients] associated with the first content [video clip] (see column 12, line 63 – column 13, line 20); and

identifying one or more protocol markers [DC coefficients] associated with the second content [query video clip] (see column 12, line 63 – column 13, line 20).

It would have been obvious to one of ordinary skill in the art to utilize the specific types of protocol markers disclosed by Dimitrova with the ones disclosed by Brunk/Leung. One would have been motivated to do so since the protocol markers disclosed by Dimitrova are well known to be associated with the transformation of the content disclosed by Brunk/Leung.

Referring to claim 14, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 15, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the second content [query video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 16, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 17, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the second content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 18, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

determine whether the first content is identical to the second content [a database query is executed to match signatures] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing in a cache the first content; identifying the protocol encoding the first content and the second content; and terminating transmission of the second content, in response to identifying the first content is identical to the second content. Leung discloses storing in a cache [cache memory] the first content (see [0119]); identifying the protocol encoding the first content and the second content; and terminating transmission of the second content, in response to identifying the first content is identical to the second content (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 37, Brunk/Leung discloses the method of claim 36, further comprising:

computing the first signature of the first content as the first content is converted from raw data to the protocol (Brunk: see [0031]); and

computing the second signature of the second content as the second content is converted from raw data to the protocol (Brunk: see [0031]).

Referring to claim 38, Brunk/Leung discloses the method of claim 36, further comprising: continuing transmission of the second content, if the first content and the second content are not identical (Leung: see [0119]).

Referring to claim 44, Brunk discloses a method, comprising:

computing [calculated] a signature of the new content, wherein the signature of the new content is a set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]); and

comparing [a database query is executed to match signatures] the computed signature of the new content with other content stored in a network cache to determine if the new content is identical to any other content on the network cache [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of determining a protocol of a new content; terminating transmission of the new content, in response to determining the new content is identical any other content on the network cache; and storing the new content in the network cache, in response to determining the new content is not identical to any other content within the network cache. Leung discloses determining a protocol of a new content (see [0103] and [0107]); terminating transmission of the new content, in response to determining the new content is identical any other content on the network cache [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]); and storing the new content in the network cache, in response to determining the new content is not identical to any other content within the

network cache [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost, since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 46, Brunk/Leung discloses the network caching device of claim 44 wherein the step of computing a signature further comprises:

identifying the set of markers associated with the protocol associated with the new content (Brunk: see [0026]); and

obtaining appropriate markers associated with the content (Brunk: see [0026]).

Referring to claim 47, Brunk discloses a method, comprising:

wherein the first content has a first signature with a first set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]);

computing a signature of the second content, wherein the second signature has a second set of protocol markers that are generated from transformation during encoding [compressed, transformed] (see [0031]);

comparing [a database query is executed to match signatures] the first set of protocol markers to the second set of protocol markers (see [0083]); and

determining the first set of protocol markers match the second set of protocol markers [recalculated signature] (see [0083]).

However, Brunk fails to explicitly disclose the further limitations of storing the first content in a cache; identifying the protocol encoding the second content; in response to determining the first set of protocol markers match the second set of protocol markers, terminating transmission of the new content; and in response to determining the first set of protocol markers do not match the second set of protocol markers, storing in the cache the second content. Leung discloses storing the first content in a cache [cache memory] (see [0119]); identifying the protocol encoding the first content and the second content (see [0103] and [0107]); in response to determining the first set of protocol markers match the second set of protocol markers, terminating transmission of the new content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]); and in response to determining the first set of protocol markers do not match the second set of protocol markers storing in the cache the second content [if the detected SPI is not in the MSs memory, the MS replaces the oldest SPI-SDP entry in its memory with the newly detected SPI-SDP pair] (see [0119]).

It would have been obvious to one of ordinary skill in the art to store the content of Brunk in a cache, including the feature of storing each content item only once. One would have been motivated to do so in order to decrease cost,

since accessing a cache is less expensive with respect to access time than accessing the database itself. Also, one would have been motivated to store each file in the cache once since reducing redundancy also reduces cost.

Referring to claim 48, Brunk/Leung discloses the method of claim 47, further comprising: in response to determining the first set of protocol markers do not match the second set of protocol markers, flushing the first content from the cache (Leung: see [0119]).

6. Claims 4-9, 14-18, 21-23, 33 and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2002/0126872 to Brunk et al in view of US PGPub 2002/0141365 to Leung as applied to claims 1, 11, 19, 20, 30 and 36 respectively above, and further in view of US Patent No 5,870,754 to Dimitrova et al.

Referring to claim 4, Dimitrova et al disclose computing signatures of content, including the further limitation of wherein the step of computing the signature of the first content and the signature of the second content (see column 11, line 60 – column 12, line 30) further comprises the steps of:

identifying one or more protocol markers [DC coefficients] associated with the first content [video clip] (see column 12, line 63 – column 13, line 20); and

identifying one or more protocol markers [DC coefficients] associated with the second content [query video clip] (see column 12, line 63 – column 13, line 20).

It would have been obvious to one of ordinary skill in the art to utilize the specific types of protocol markers disclosed by Dimitrova with the ones disclosed by Brunk/Leung. One would have been motivated to do so since the protocol markers disclosed by Dimitrova are well known to be associated with the transformation of the content disclosed by Brunk/Leung.

Referring to claim 5, the combination of Brunk/Leung and Dimitrova (hereafter Brunk/Leung/Dimitrova) discloses the method of claim 4 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 6, Brunk/Leung/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the second content [query video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 7, Brunk/Leung/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 8, Brunk/Leung/Dimitrova discloses the method of claim 4 wherein the one or more protocol markers associated with the second

content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 9, Brunk/Leung/Dimitrova discloses the method of claim 4 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

Referring to claim 13, Dimitrova et al disclose computing signatures of content, including the further limitation of wherein the step of computing the signature of the first content and the signature of the second content (see column 11, line 60 – column 12, line 30) further comprises the steps of:

identifying one or more protocol markers [DC coefficients] associated with the first content [video clip] (see column 12, line 63 – column 13, line 20); and

identifying one or more protocol markers [DC coefficients] associated with the second content [query video clip] (see column 12, line 63 – column 13, line 20).

It would have been obvious to one of ordinary skill in the art to utilize the specific types of protocol markers disclosed by Dimitrova with the ones disclosed by Brunk/Leung. One would have been motivated to do so since the protocol markers disclosed by Dimitrova are well known to be associated with the transformation of the content disclosed by Brunk/Leung.

Referring to claim 14, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the first content [video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 15, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the second content [query video clip] comprises discrete cosine coefficients (Dimitrova: see column 12, line 63 – column 13, line 20).

Referring to claim 16, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the first content [video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 17, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 wherein the one or more protocol markers associated with the second content [query video clip] comprises motion vectors (Dimitrova: see column 11, lines 21-22).

Referring to claim 18, Brunk/Leung/Dimitrova discloses the apparatus of claim 13 further comprising the steps of:

identifying a length [size of video clip in bytes and time length of video clip] of the first content [video clip] (Dimitrova: see column 9, lines 44-50); and

identifying a length [size of video clip in bytes and time length of video clip] of the second content [query video clip] (Dimitrova: see column 9, lines 44-50).

Referring to claim 21, the claim is rejected on the same grounds as claims 5 and 6.

Referring to claim 22, the claim is rejected on the same grounds as claims 7 and 8.

Referring to claim 23, the claim is rejected on the same grounds as claim 9.

Referring to claim 33, the claim is rejected on the same grounds as claim 5.

Referring to claim 39, the claim is rejected on the same grounds as claim 5.

Referring to claim 40, the claim is rejected on the same grounds as claim 6.

Referring to claim 41, the claim is rejected on the same grounds as claim 7.

Referring to claim 42, the claim is rejected on the same grounds as claim 8.

Referring to claim 43, the claim is rejected on the same grounds as claim 9.

7. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2002/0126872 to Brunk et al in view of US PGPub 2002/0141365 to Leung as applied to claim 24 above, and further in view of US Patent No 6,674,769 to Viswanath (hereafter Viswanath).

Referring to claim 27, Brunk/Leung disclose a method for identifying content using a protocol associated with the content as a signature. However, Brunk/Leung fails to explicitly teach the further limitation wherein the signature is utilized in a network caching device to determine whether data should be forwarded from the network caching device. Viswanath discloses a method for identifying content using signatures in a network that utilizes caching (see abstract), including the further limitation wherein the signature is utilized in a network caching device to determine whether data should be forwarded from the network caching device (see column 2, lines 56-64 – caching data) in order to increase the abilities of electronic systems to detect the presence of predefined objects.

It would have been obvious to one of ordinary skill at the time the invention was made to use the Viswanath's concept of network caching as a subcomponent to Brunk/Leung's method for identifying content using a protocol associated with the content as a signature. One would have been motivated to do so in order to increase the abilities of electronic systems to detect the presence of predefined objects.

Referring to claim 28, Brunk/Leung discloses a method for identifying content using a protocol associated with the content as a signature. However, Brunk/Leung fails to explicitly teach the further limitation wherein the signature is utilized to determine if a local copy of the content should be accessed. Viswanath discloses a method for identifying content using signatures in a network that utilizes caching (see abstract), including the further limitation

wherein the signature is utilized to determine if a local copy of the content should be accessed (see column 6, lines 46-56 – accessing local copy) in order to increase the abilities of electronic systems to detect the presence of predefined objects.

It would have been obvious to one of ordinary skill at the time the invention was made to use the Viswanath's concept of accessing a local copy as a subcomponent to Brunk/Leung's method for identifying content using a protocol associated with the content as a signature. One would have been motivated to do so in order to increase the abilities of electronic systems to detect the presence of predefined objects.

Referring to claim 29, Brunk/Leung discloses a method for identifying content using a protocol associated with the content as a signature. However, Dimitrova et al fail to explicitly teach the further limitation wherein the signature is utilized to determine if a remote copy of the content should be accessed. Viswanath discloses a method for identifying content using signatures in a network that utilizes caching (see abstract), including the further limitation wherein the signature is utilized to determine if a remote copy of the content should be accessed (see column 6, lines 46-56 – accessing remote copy) in order to increase the abilities of electronic systems to detect the presence of predefined objects.

It would have been obvious to one of ordinary skill at the time the invention was made to use the Viswanath's concept of accessing a remote copy as a subcomponent to Brunk/Leung's method for identifying content using a

protocol associated with the content as a signature. One would have been motivated to do so in order to increase the abilities of electronic systems to detect the presence of predefined objects.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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